

## First Food Plant Record for *Lagideus* Konow (Hymenoptera: Pergidae), a New Species Feeding on *Fuchsia* and *Ludwigia* (Onagraceae) in Argentina

DAVID R. SMITH AND SILVINA G. BADO

(DRS) Systematic Entomology Laboratory, PSI, Agricultural Research Service, U. S. Department of Agriculture, % National Museum of Natural History, Smithsonian Institution, P.O. Box 37012, MRC-168, Washington, DC 20013-7012, USA; email: dsmith@sel.barc.usda.gov;

(SGB) Cátedra Zoología Agrícola, Facultad de Agronomía, Universidad de Buenos Aires, Av. San Martín 4453, C1417 DSQ, Cap. Fed., Argentina; email: sbado@agro.uba.ar

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**Abstract.**—*Lagideus badoae* Smith, n. sp. (Pergidae: Syzygoniinae), from Argentina and Uruguay is described and illustrated. Adults were reared from larvae feeding on *Fuchsia* sp. and *Ludwigia peploides* (Kunth) Raven (Onagraceae) in Buenos Aires, Argentina. This is the first food plant record for a species of *Lagideus*. The larva, bearing two long apical filaments, is similar to the larva of *Syzygonia cyanocephala* Klug of Brazil and resembles larvae of the Australian genus *Philomastix* Froggatt (Pergidae: Philomastiginae).

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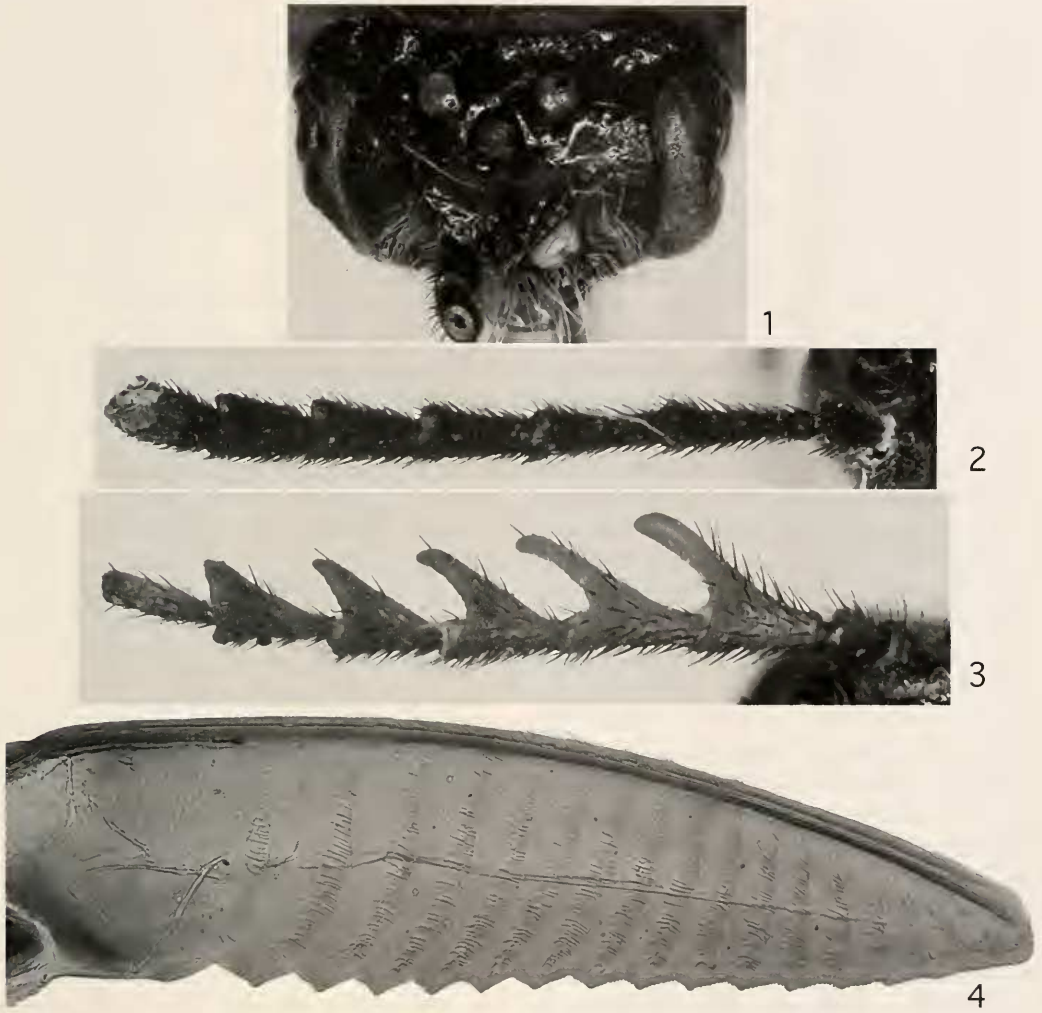
*Lagideus* Konow currently includes 22 species and occurs from southern Mexico to northern Argentina. Smith (1990) revised this exclusively Neotropical genus, separated it from the other three genera of Syzygoniinae, added 18 new species, and gave a key to the 22 species. Food plants for the genus have remained unknown until adults were reared from larvae feeding on *Fuchsia* sp. and *Ludwigia peploides* (Kunth) Raven (Onagraceae) in Buenos Aires, Argentina, by SGB. Members of *Lagideus* are not commonly collected, and most species are known only from a few specimens. Considering the scarcity of study material for *Lagideus*, its potential great diversity, and probable occurrence of many more undescribed species, it is not surprising that these reared specimens represent a new species.

The genus *Lagideus* is distinguished from other genera of Syzygoniinae by the 8-segmented antennae which are filiform or serrate in females and bipectinate or unipectinate in males, presence of three cubital cells in the forewing, carinate inner

and upper margins of the antennal crests and usual carinate hind margin of the postocellar area, long apical hind tibial spines (usually more than half the length of the basitarsi), mostly sclerotized basal plates, and a small mesoscutellum. The base of vein M in the forewing (near Sc+R) is usually distinctly swollen. Sexual dimorphism in *Lagideus* species is especially evident in the antennae as described above. It is difficult to associate sexes, and it is possible a few of the described species represent opposite sexes of the same species. This new species and *L. townesi* Smith are the only two for which both sexes have been associated.

### *Lagideus badoae* Smith, new species (Figs. 1–9)

**Female.**—Length (holotype and paratypes), 6.0 mm. Antenna and head black. Thorax black with pronotum orange. Legs black with basal half of hind femur, extreme bases of fore- and midfemora, basal halves of tibiae, and entire fore- and mid-tarsi mostly white. Abdomen black with



Figs. 1–4. *Lagideus badoae*. 1, Head, dorsal view. 2, Female antenna. 3, Male antenna. 4, Female lancet.

orange lateral stripes. Wings hyaline; stigma and veins black. Antenna (Fig. 2) 8-segmented, segments 3–7 slightly serrate, each slightly expanded at apex; antennal length 1.8× head width; first and second segments each slightly longer than broad; third segment longer than fourth segment, segments 4–8 gradually decreasing in length. Malar space as broad as diameter of front ocellus. Lower interocular distance slightly shorter than eye length; eyes slightly converging below; upper interocular distance, to lower interocular distance, to eye length as 100:80:85. Head

from above narrowing behind eyes (Fig. 1); distances between eye and hind ocellus, between hind ocelli, and from hind ocellus to posterior margin of head as 25: 25:15; postocellar area 3.7× broader than long, carinate behind. Hind basitarsus shorter than length of remaining tarsal segments combined, as 6:8; inner hind tibial spur about half length of hind basitarsus. Sheath (Figs. 5, 6) rounded in lateral view, slightly concave on ventro-apical margin, in dorsal view, thick at base and tapering evenly to acute apex, with long backward projecting hairs, many longer

than greatest breadth of sheath in dorsal view, and many curved at their apices. Lancet (Fig. 4) with short annular hairs evenly distributed on annuli, hairs present on each annulus (except at extreme apex); apex blunt, nearly truncate; serrulae pointed, those at base and center deeper than those near apex; each serrula with 6–9 fine anterior and posterior subbasal teeth; margin at apex with very fine teeth.

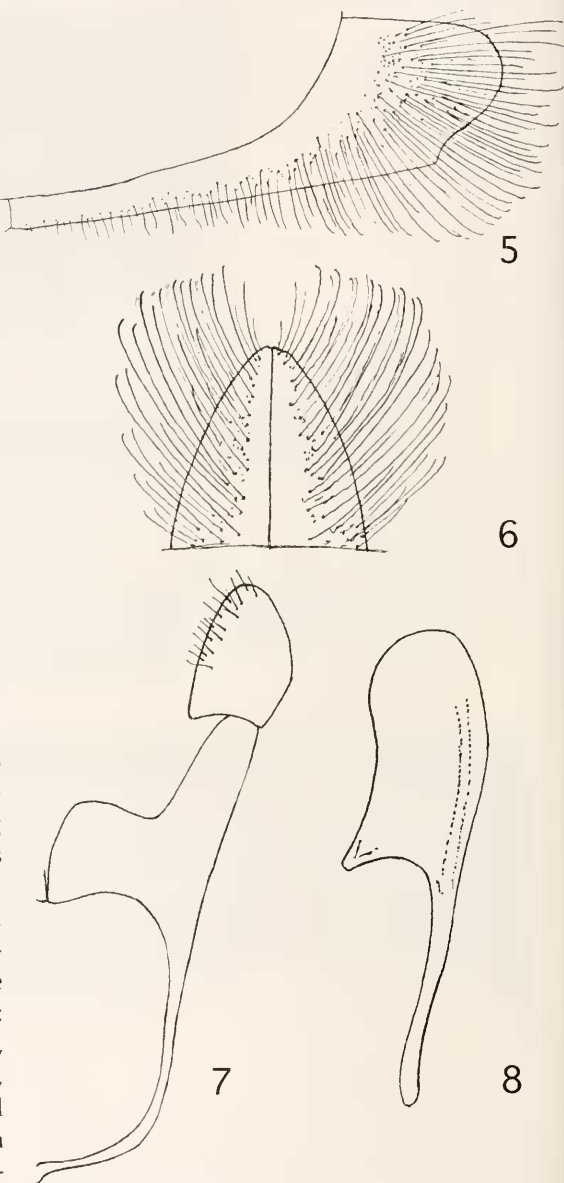
*Male*.—Length, 5.8 mm. Color like female but legs mostly white and antenna brownish. Antenna (Fig. 3) with segments 3–6 unipectinate; ramus of third segment long, subequal to length of segment; rami of segments 4–6 each shorter than length of respective segment; segment 7 triangular; segment 8 elongate, not expanded at apex. Genitalia (Figs. 7, 8) with harpe with long, stiff hairs on inner surface; parapenis about as long as broad, rounded at apex; penis valve oval.

*Larva*.—Flattened on leaf; thoracic legs directed laterally; abdominal segments with lateral lobes; abdominal segments 3–annulate; apical segment with two long filaments. (From photo, Fig. 9; specimens not saved for study.)

*Types*.—Holotype ♀, labeled "Cap. Fed. Arg. 05/2003," Deposited in Ciencias Naturales Museo, Universidad Nacional de La Plata, La Plata, Argentina. Paratypes: ARGENTINA: Same data as holotype (2♀, 1♂). URUGUAY: Montevideo, Rec'd 47, HL Parker (1♀). Deposited in the National Museum of Natural History, Smithsonian Institution, Washington, DC, and Universidad de Buenos Aires, Buenos Aires, Argentina.

*Etymology*.—Named after Ing. Agr. Silvina G. Bado, the co-author of this paper and discoverer of the larva and food plant.

*Food plants and life history*.—Adults were bred from larvae feeding on *Fuchsia* sp. and *Ludwigia peploides* (Kunth) Raven (Onagraceae). Larvae were collected in early April when they were about 1 cm long. Pupation occurred about 10 days after collection, and adults emerged about a week



Figs. 5–8. *Lagideus badoae*. 5, Female sheath, lateral view. 6, Female sheath, dorsal view. 7, Male genital capsule, ventral view of right half. 8, Male genitalia, lateral view of penis valve.

after pupation. Rearing conditions were  $25 \pm 3^\circ \text{C}$  and 50–60% relative humidity. Larvae were gregarious feeders on the lower leaf surface, skeletonizing the leaves of both food plants.

*Remarks*.—Of the 22 species treated by



Smith (1990) 15 are known only from the female and six only from the male. The single species for which both sexes are known is *L. townesi* Smith.

The female of *Lagideus badoae* is in the group that has hairlike annular armature rather evenly distributed the full length of each annulus of the lancet (Smith 1990: figs. 313–319, 323–324) (not clusters of long, stout spines on the dorsal half of the lancet as in figs. 318–322). From the ten species with annular hairs, the female of *L. badoae* is separated by having annular hairs on each annulus of the lancet except the extreme apex, the annuli subparallel, and the apex of the lancet nearly truncate, and by the black thorax with the pronotum orange and black abdomen with a lateral orange stripe. The second half of couplet 2 in Smith's (1990) key can be modified to include "abdomen black with lateral orange stripes." This would take *L. badoae* to couplet 12, the second half of which can be modified to add "abdomen orange with orange lateral stripes and thorax black with pronotum orange." Thus, *L. badoae* will key to *L. wygodzinskyi* Malaise, known from São Paulo and Rio de Janeiro, Brazil, from which it can be separated by the subparallel annuli and truncate apex of the lancet. The lancet of *L. wygodzinskyi* has the basal and apical annuli divergent and the apex acute (Smith 1990, fig. 313).

The male of *Lagideus badoae* will key to couplet 20 which includes *L. wuncatus* Smith and *L. yantuus* Smith. Both these species have the hind basitarsus longer than the length of the remaining tarsal segments combined and are different in color. *Lagideus wuncatus* (described from Buenos Aires, Argentina), has dark orange antennae, the upper half of the mesepisternum, tegula, lateral spots on the mesoprescutum, and mesoscutellum orange, and the abdomen black with the first and second terga mostly orange. *Lagideus yantuus* (described from São Paulo, Brazil) has the antenna dark orange, the supracl-

peal area, clypeus, and labrum whitish, lateral spots on the mesoprescutum orange, and an entirely black abdomen. The genitalia of *L. badoae* most closely resembles that of *L. wuncatus* (Smith 1990: fig. 308).

Some other species described from southern South America are *L. albitarsus* Malaise (Santa Catarina, Brazil, and Uruguay), *L. crinitus* (Konow) ("Argentina"), *L. luteus* Smith (Tucumán, Argentina), and *L. townesi* Smith (Tucumán, Argentina). The male of *L. albitarsus* has considerable orange on the thorax and the ramus of the third segment is much longer than the length of the segment (Smith 1990: fig. 285); the female of *L. crinitus* has much of the thorax and abdomen (except apex) orange, the antenna only 1.5× the head width, the hind basitarsus longer than the length of the remaining tarsal segments combined, and the antenna with only segments 5–7 serrate; the females of *L. luteus* and *L. townesi* have a cluster of long spines on the dorsal half of the lancet (Smith 1990: figs. 318, 319), and the male of *L. townesi* has the ramus of the third segment much longer than the length of the segment (as in Smith 1990: fig. 285).

A photo of the larva was taken (Fig. 9), though no larvae were saved for further description. It is unusual, mainly by the presence of two long apical filaments at the apex of the abdomen; otherwise, the laterally protruding legs and lateral lobes of the abdominal segments resemble some North American *Acordulecera* Say (Pergidae: Acordulecerinae) larvae. The only other known larvae in the Neotropics with such long apical filaments is *Syzygonia cyanocephala* Klug which feeds on *Tibouchina* spp. (Melastomataceae) in Brazil (illustrated by Azevedo Marques 1933). Smith (1990) placed *Syzygonia* Klug and *Lagideus* in the same subfamily, the Syzygoniinae, based on adult characters. The similarity of the larvae may help support that conclusion.

Other sawfly larvae with similar long



Fig. 9. Larva of *Lagideus badoae* feeding on *Ludwigia* sp.

apical filaments are those of *Philomastix* sp. (Pergidae: Philomastiginae) in Australia (Froggatt 1901, fig. 6; Naumann 1991, fig. 42–13 A). In *Philomastix*, the long filaments protrude from the ninth segment, not the apical one; in the photo it appears that the filaments of *L. badoae* protrude from the apical segment.

#### ACKNOWLEDGMENTS

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#### LITERATURE CITED

- Azevedo Marques, L. A. de. 1933. Tenthredinidae conhecida por "Mosca de Serra" cuja larva, ou "falsa lagarta" é nociva a varias espécies do genero *Tibouchina* (Biologia de *Bergiaana cyanocephala* (Klug, 1824) Konow, 1899). *Ministerio da Agricultura, Instituto Biologico de Defesa Agricola, Rio de Janeiro*. 11 pp., 7 pls.
- Froggatt, W. W. 1901. The pear and cherry slug (*Erionanpa limacina*, Retz), generally known as *Selandria cerasi*, with notes on Australian sawflies. *Agricultural Gazette of New South Wales, Miscellaneous Publication No. 497*, 11 pp.
- Naumann, I. 1991. 42. Hymenoptera (wasps, bees, ants, sawflies), pp. 916–1106 *In The Insects of Australia, A Textbook for Students and Research Workers*. Division of Entomology, Commonwealth Scientific and Industrial Research Organisation, Melbourne University Press. Second Edition, Volume II, pp. 543–1137.
- Smith, D. R. 1990. A synopsis of the sawflies (Hymenoptera: Symphyta) of America south of the United States: Pergidae. *Revista Brasileira Entomologia* 34: 7–200.